

Notice of Allowability

Application No.

10/790,174

Examiner

Kevin Quarterman

Applicant(s)

ASHIDA ET AL.

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 29 November 2006.
2. ☒ The allowed claim(s) is/are 1 and 3-21.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

DETAILED ACTION

Response to Amendment

1. Applicant's remarks received on 29 November 2006 have been entered.

Allowable Subject Matter

2. Claims 1 and 3-21 are allowed.
3. The following is an examiner's statement of reasons for allowance: Applicant presented several arguments explaining why the applied reference of Hansler (US 4,935,668) does not disclose the claimed invention. In particular, applicant argued that the Examiner's reliance upon the molecular weights of the metal halides is improper to determine the claimed ratios. Applicant's arguments are persuasive.
4. Thus, regarding independent claim 1, the prior art of record neither shows or suggests a high-intensity discharge lamp including, in addition to other limitations of the claims, a discharge chamber filled with a discharge medium including a metal halide and the a starting gas, the metal halide comprising at least halides of Na, Tl, and Tm, wherein the ratio of the mass M_{Tm} of Tm halide to the total mass M of the metal halide is within a range of about $0.4 \leq M_{Tm}/M \leq 0.9$. Due to their dependency upon independent claim 1, claims 3 and 9-21 are also allowable.
5. Regarding independent claim 4, the prior art of record neither shows or suggests a high-intensity discharge lamp including, in addition to other limitations of the claims, a discharge chamber filled with a discharge medium including a metal halide that comprises at least halides of Na, Tl, In, and Tm and a starting gas, wherein the total mass of the halides of Na, Tl, In, and Tm is greater than 90% of the total mass of the

metal halide. Due to their dependency upon independent claim 4, claims 9-15 are also allowable.

6. Regarding independent claim 5, the prior art of record neither shows or suggests a high-intensity discharge lamp including, in addition to other limitations of the claims, a discharge chamber filled with a discharge medium including a metal halide that comprises at least halides of Na, Tl, and Tm and a starting gas, wherein the ratio of the mass MT_m of Tm halide to the total mass M of the metal halide is within a range of about $0.4 \leq MT_m/M \leq 0.9$. Due to their dependency upon independent claim 5, claims 10-15 are also allowable.

7. Regarding independent claim 6, the prior art of record neither shows or suggests a high-intensity discharge lamp including, in addition to other limitations of the claims, a discharge chamber filled with a discharge medium including a metal halide and a starting gas, the metal halide comprising at least halides of Na, Tl, In, and Tm, wherein the ratio of the mass MT_m of Tm halide to the total mass M of the metal halide is within a range of about $0.4 \leq MT_m/M \leq 0.9$, and wherein the total mass of the halides of Na, Tl, In, Tm halides is greater than 90% of the total mass M of the metal halide. Due to their dependency upon independent claim 6, claims 8-15 and claims 20-21 are also allowable.

8. Regarding independent claim 7, the prior art of record neither shows or suggests a high-intensity discharge lamp comprising, in addition to other limitations of the claim, a discharge chamber filled with a discharge medium including a metal halide that comprises at least halides of Na, Tl, In, and Tm and a starting gas, wherein a ratio

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$(MT_m + MT_I + M_{In})/M$ of the sum of the mass MT_m of the Tm halide and the mass MT_I of the TI halide and the mass M_{In} of the In halide to the total mass M of the metal halide being within a range of about $0.61 \leq (MT_m + MT_I + M_{In})/M \leq 0.9$, and wherein the ratio (M_{In}/M) of the mass of the In halide to the total mass M of the metal halide is within a range of about $0.01 \leq M_{In}/M \leq 0.1$.

9. The subject discharge medium described earlier is provided for improving the emission properties of the high-intensity discharge lamp. The design is new and unique to the art.

10. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Quarterman whose telephone number is (571) 272-2461. The examiner can normally be reached on M-TH (7-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kevin Quarterman
Examiner
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kq 

22 December 2006



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